

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

AI 1. (Original) A method of generating a HART alert message within a process control system, comprising the steps of:

- uniquely associating a plurality of device conditions for a HART device with a plurality of device status conditions, each of which is indicative of a different level of severity;
- detecting a condition associated with the HART device;
- mapping the condition associated with the HART device to one of the plurality of device status conditions; and
- generating the HART alert message to include information associated with the condition associated with the HART device and the one of the plurality of device status conditions.

2. (Original) The method of claim 1, wherein the step of uniquely associating the plurality of device conditions for the HART device with the plurality of device status conditions includes the step of uniquely associating the plurality of device conditions for the HART device with one of a status condition associated with a failure of the HART device, a status condition associated with maintenance of the HART device and a status condition associated with an advisable action in connection with the HART device.

3. (Original) The method of claim 1, wherein the step of detecting the condition associated with the HART device includes the step of detecting one of a condition associated with a failure of the HART device, a condition associated with maintenance of the HART device and a condition associated with an advisable action in connection with the HART device.

4. (Original) The method of claim 1, wherein the step of mapping the condition associated with the HART device to the one of the plurality of device status conditions includes the step of using a table that uniquely maps standard HART status

conditions to at least two status conditions selected from the group consisting of failure, maintenance and advisable action status conditions.

5. (Original) The method of claim 4, further including the step of using the table to map a device specific condition to one of a failure status condition, a maintenance status condition and advisable action status condition.

6. (Original) The method of claim 1, wherein the step of mapping the condition associated with the HART device to the one of the plurality of device status conditions includes the step of associating a more status available condition with an advisable action status condition.

7. (Original) The method of claim 1, further including the step of displaying the detected condition together with an indication of the one of the plurality of device status conditions.

8. (Original) A system for use in a process control system having a processor that generates a HART alert message, the system comprising:
a computer readable medium;
a first routine stored on the computer readable medium and adapted to be executed by the processor that uniquely associates a plurality of device conditions for a HART device with a plurality of device status conditions, each of which is indicative of a different level of severity;

a second routine stored on the computer readable medium and adapted to be executed by the processor that detects a condition associated with the HART device;

a third routine stored on the computer readable medium and adapted to be executed by the processor that maps the condition associated with the HART device to one of the plurality of device status conditions; and

a fourth routine stored on the computer readable medium and adapted to be executed by the processor that generates the HART alert message to include information associated with the condition associated with the HART device and the one of the plurality of device status conditions.

9. (Original) The system of claim 8, wherein the first routine is further adapted to uniquely associate the plurality of device conditions for the HART device with one of a status condition associated with a failure of the HART device, a status condition associated with maintenance of the HART device and a status condition associated with an advisable action in connection with the HART device.

10. (Original) The system of claim 8, wherein the second routine is further adapted to detect one of a condition associated with a failure of the HART device, a condition associated with maintenance of the HART device and a condition associated with an advisable action in connection with the HART device.

11. (Original) The system of claim 8, wherein the third routine is further adapted to use a table that uniquely maps standard HART status conditions to at least two status conditions selected from the group consisting of failure, maintenance and advisable action status conditions.

12. (Original) The system of claim 11, wherein the third routine is further adapted to use the table to map a device specific condition to one of a failure status condition, a maintenance status condition and advisable action status condition.

13. (Original) The system of claim 8, wherein the third routine is further adapted to associate a more status available condition with an advisable action status condition.

14. (Original) A method of reporting field device alert messages within a process control system having a user interface display, comprising the steps of:

detecting a condition within a field device;
associating the detected condition with one of a device failure, device maintenance and advisable action status conditions, each of which is indicative of a different level of severity; and
reporting the detected condition via the user interface display using the one of the device failure, device maintenance and advisable action status conditions.

15. (Original) The method of claim 14, wherein the step of detecting the condition within the field device includes the step of detecting the condition within one of a Fieldbus and HART device.

16. (Original) The method of claim 14, wherein the step of associating the detected condition with the one of the device failure, device maintenance and advisable action status conditions includes the step of using a table to map the detected condition to the one of the device failure, device maintenance and advisable action status conditions.

17. (Original) The method of claim 16, wherein the step of using the table to map the detected condition to the one of the device failure, device maintenance and advisable action status conditions includes the step of using a table stored within one of the device and a computer communicatively coupled to the process control system.

A1 18. (New) A method of generating alert messages within a process control system, the method comprising:

associating each device status condition in a first plurality of possible device status conditions with one device status condition in a second plurality of possible device status conditions, the first plurality of possible device status conditions comprising standard HART device status conditions, the second plurality of possible device status conditions comprising at least a failed device condition, a device needs maintenance condition, and an advisory condition;

receiving device status data from a HART device within the process control system, the device status data indicative of a HART device status condition associated with the HART device, the HART device status condition comprising one device status condition from the first plurality of possible device status conditions;

determining a device status condition from the second plurality of possible device status conditions associated with the HART device status condition; and

generating a HART alert message, the HART alert message including data indicative of the HART device, data indicative of the HART device status condition, and data indicative of the device status condition from the second plurality of possible device status conditions associated with the HART device status condition.

19. (New) The method of claim 18, wherein generating the HART alert message comprises generating the HART alert message in a Fieldbus alert message format.

20. (New) The method of claim 18, wherein associating each device status condition in the first plurality of possible device status conditions with one device status condition in the second plurality of possible device status conditions comprises:

associating a device malfunction condition with the failed device condition;

associating a more status available condition with the advisory condition;

associating a configuration change condition with the advisory condition;

associating a PV saturated condition with the device needs maintenance condition;

associating a PV fixed condition with the device needs maintenance condition;

associating a PV out of limits condition with the device needs maintenance condition;

associating a non-PV out of limits condition with the device needs maintenance condition; and

associating a cold start condition with the advisory condition.
